

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A tone signal detection circuit for a receiving circuit for detecting at least one signal having a predetermined tone signal frequency ( $f_E$ ) which is contained in a received analog input signal, comprising:
  - (a) a reference signal generator for generating an analog converter reference signal  $V_{ref}$  which consists of a reference DC ( $V_{refDC}$ ) and a periodic reference AC ( $V_{refAC}$ ) having a variable fundamental frequency ( $f_G$ ), which is superimposed on the reference DC ( $V_{refDC}$ );
  - (b) an analog/digital converter for converting the analog input signal into a digital data stream in dependence on the analog converter reference signal ( $V_{ref}$ ); and ~~comprising~~
  - (c) a digital control circuit which adjusts the variable fundamental frequency ( $f_G$ ) of the reference signal ( $V_{ref}$ ) generated by the reference signal generator in accordance with the predetermined tone signal frequencies ( $f_G$ ) of the tone signals to be detected and evaluates the digital data stream output by the ~~digital~~ analog/digital converter for detecting a data pattern corresponding to the tone signal.
2. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the reference signal generator exhibits a reference voltage source for generating the reference DC ( $V_{refDC}$ ),  
a controllable signal generator for generating the periodic reference AC signal ( $V_{refAC}$ ) in dependence on a fundamental-frequency adjusting signal, received by the digital control circuit, for adjusting the fundamental frequency ( $f_G$ ), and an adder which adds the reference DC

( $V_{\text{refDC}}$ ) to the periodic reference AC ( $V_{\text{refAC}}$ ) for forming the converter reference signal ( $V_{\text{ref}}$ ).

3. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the digital control circuit contains a zero transition counting device which counts the number of zero transitions of the digital data stream output by the analog/digital converter, the digital control circuit detecting a tone signal when the number of zero transitions per time corresponds to a predetermined nominal zero transition rate.
4. (Currently Amended) The tone signal detection circuit as claimed in claim ~~[[1]]~~ 3, wherein ~~[[the]]~~ various nominal zero transition rates of the tone signals to be detected can be adjusted in the digital control circuit.
5. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the digital control circuit contains a comparator circuit with adjustable signal threshold values.
6. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the digital control circuit exhibits a digital band-pass filter for band-pass filtering the digital data stream.
7. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the detected tone signals are temporarily stored in a memory of the digital control circuit.
8. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the digital control circuit outputs a corresponding interrupt signal to a central controller of the receiver circuit, with a predetermined tone signal combination which consists of at least one tone signal.

9. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the analog/digital converter contains a digital filter and a decimation filter.
10. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the received analog input signal is an xDSL signal.
11. (Currently Amended) The tone signal detection circuit as claimed in claim ~~[[1]]~~ 8, wherein the receiver circuit is a modem receiver circuit.
12. (Previously Presented) The tone signal detection circuit as claimed in claim 11, wherein the modem receiver circuit switches the receiver circuit from a standby mode to a data reception mode by means of the central controller on reception of the interrupt signal from the digital control circuit.
13. (Currently Amended) The tone signal detection circuit as claimed in claim 1, wherein the ~~digital/analog~~ analog/digital converter is preceded by an anti-aliasing filter.
14. (Previously Presented) The tone signal detection circuit as claimed in claim 13, wherein the anti-aliasing filter is preceded by an automatic gain control circuit.
15. (Previously Presented) The tone signal detection circuit as claimed in claim 1, wherein the digital data stream output by the analog/digital converter is evaluated by a following data processing circuit of the receiver.
16. (Canceled)
17. (Canceled)